



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,451	07/30/2002	Elvir Causevic	KEDI 7230US	4217

1688 7590 02/11/2004

POLSTER, LIEDER, WOODRUFF & LUCCHESI
12412 POWERSCOURT DRIVE SUITE 200
ST. LOUIS, MO 63131-3615

EXAMINER

SZMAL, BRIAN SCOTT

ART UNIT PAPER NUMBER

3736

DATE MAILED: 02/11/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,451

Applicant(s)

CAUSEVIC ET AL.

Examiner

Brian Szmaj

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-27 and 29-35 is/are allowed.
- 6) ☒ Claim(s) 1,5,6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 2-4,11-13 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show "interface 103", "random access memory 2a", "random access memory 2b", "dedicated serial link 107", "tympanometry interface 11a" as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "90" and "9" have both been used to designate a probe connection in Figure 2. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "10" and "80" have both been used to designate the ABR interface in Figure 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "110" and "111" have both been used to designate the new frame buffer in Figure 8. A proposed drawing correction or corrected drawings are

Art Unit: 3736

required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "114" has been used to designate both a calibration block and the averaging old and new block in Figure 8. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities: On Page 7, lines 5 and 8, of the specification, appears the reference should be made to Figure 4 instead of Figure 2. Likewise, on Page 15, lines 13 and 17 of the specification, the reference appears it should be made to Figures 5 and/or 6 instead of Figure 3.

Appropriate correction is required.

Claim Objections

7. Claim 1 is objected to because of the following informalities: In line 15, "a connection point on said enclosure for a probe" should read as "a probe connection point on said enclosure" to prevent an intended use rejection. Likewise, the phrase, "the connection point" in line 15 should read as "the probe connection point". Appropriate correction is required.

Art Unit: 3736

8. Claim 12 is objected to because of the following informalities: In line 12, "a connection point on said enclosure for a probe" should read as "a probe connection point on said enclosure" to prevent an intended use rejection. Likewise, the phrase, "the connection point" in line 12 should read as "the probe connection point". In line 18, the last line should read as "wherein said auditory screening device further comprises a memory subsystem that includes provisions for patient data" to better claim the use of the memory subsystem in relation to the device. Appropriate correction is required.
9. Claim 24 is objected to because of the following informalities: In line 5, "frame slid" should read as "frame is slid". Appropriate correction is required.
10. Claim 28 is objected to because of the following informalities: The disclosure of "OAE" in the claim should be changed to "otoacoustic auditory emission" to better conform to the disclosure in Claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
12. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
13. Claim 8 recites the limitation "said memory subsystem" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zoth et al ('126) in view of Dolphin ('091).

Zoth et al disclose an audiological screening method and apparatus and further disclose a portable hand-held enclosure (See Column 9, lines 40-42); a signal processor housed by the enclosure, the processor having a computer program operated on command by a user, and applying an otoacoustic emission test (See Start Button in Figure 5 and Column 9, lines 6-56); a display for displaying the results; a connection point on the enclosure for a probe (See Figure 5); a power supply for operating the signal processor (See Column 9, lines 56-58); and the power supply is rechargeable (See Column 9, lines 56-58).

Zoth et al however fail to disclose a memory module housed by the enclosure for maintaining at least one test subject record.

Dolphin discloses an audiometric screening apparatus and further discloses a memory module housed by the enclosure for maintaining at least one test subject record. See Column 8, lines 8-10.

Since both Zoth et al and Dolphin disclose audiometric screening apparatus, it would have been obvious to one of ordinary skill in the art at the time the invention was made

Art Unit: 3736

to modify the apparatus of Zoth et al to include the use of a memory to store a patient record, as per the teachings of Dolphin, since it would provide a means of utilizing the device for a time before downloading the data to another computer system for storage or further analysis.

16. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zoth et al ('126) and Dolphin ('091) as applied to claim 1 above, and further in view of Combs et al.

Zoth et al and Dolphin, as discussed above, disclose audiometric screening apparatus, but fail to disclose an otoacoustic emission simulator interface operatively connected to the signal processor for testing the system.

Combs et al disclose a device and process for generating and measuring the shape of an acoustic reflectance curve of an ear and further disclose an otoacoustic emission simulator interface operatively connected to the signal processor for testing the system.

See Column 15, lines 31-44; Column 18, lines 66-67; and Column 19, lines 1-2.

Since Zoth et al, Dolphin and Combs et al disclose audiometric screening systems, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Zoth et al and Dolphin, to include the use of an otoacoustic emission simulator to test the system, as per the teachings of Combs et al, since it would provide a means of ensuring the device is properly calibrated to provide accurate measurements.

16. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zoth et al ('126) and Dolphin ('091) as applied to claim 1 above, and further in view of Shennib.

Art Unit: 3736

Zoth et al and Dolphin, as discussed above, disclose audiometric screening apparatus, but fail to disclose an infrared interface operatively connected to the signal processor for permitting communication between the signal processor and an external device.

Shennib discloses a headset hearing tester and hearing aid programmer and further disclose an infrared interface operatively connected to the signal processor for permitting communication between the signal processor and an external device. See Column 5, lines 19-33.

Since Zoth et al, Dolphin and Shennib disclose means for audiometric testing, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Zoth et al and Dolphin to include the use of an infrared interface, as per the teachings of Shennib, since it would provide a means of performing the test using a hand-held device and receiving the signals wirelessly from the user.

17. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zoth et al ('126) and Dolphin ('091) as applied to claim 1 above, and further in view of Zurek et al.

Zoth et al and Dolphin, as discussed above, disclose audiometric screening apparatus, wherein Dolphin discloses the use of a keyboard (64) connected to the signal processor, but both fail to disclose a memory mapped input/output device operatively connected to the memory subsystem and to the signal processor, the display being connected to the signal processor through the memory mapped device.

Zurek et al, as discussed above, disclose a method for testing adequacy of hearing and further disclose a memory mapped input/output device operatively connected to the

Art Unit: 3736

memory subsystem and to the signal processor, the display being connected to the signal processor through the memory mapped device. See Column 4, lines 34-63; and Column 5, lines 20-62.

Since Zoth et al, Dolphin and Zurek et al disclose means for audiometric testing, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Zoth et al and Dolphin to include the use of a memory subsystem, as per the teachings of Zurek et al, since it would provide a means of storing multiple parameters within a single memory system.

Allowable Subject Matter

18. Claims 2-4, 11, 13 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. No prior art could be found teaching or suggesting an auditory screening device comprising: a plurality of electrodes operatively coupled to the signal processor; further including a tympanometry interface operatively connected to the signal processor; further including an otoreflectance interface operatively connected to the signal processor; the signal processor is configured to perform a time domain sum and average over time for obtaining otoacoustic auditory emission signal detection using an offset frame overlap method; an auditory brain stem test signal is determined by digital signal processing and counting zero crossings of correlated internally generated sinusoids; and the signal processor is configured with an otoacoustic auditory emission simulator program at

Art Unit: 3736

least partially contained within the signal processor, where the signal processor is configured to generate simulated $f_{sub}(dp)$ tones in response to tones generated by a probe.

19. The following is a statement of reasons for the indication of allowable subject matter: Claims 12-27 and 29-35 contain allowable subject matter, and Claims 12, 13 and 24 will be allowable once the above objections are overcome. Claims 14-17 are allowable since no prior art could be found teaching or suggesting a method for conducting an otoacoustic auditory emission test comprising averaging the digital signal over a predetermined number of sequential frames, wherein data from sequentially preceding frames is slid by a predetermined number of data points prior to averaging. Claims 18-23 are allowable since the objection of Claim 18 in Paper No. 8 was overcome. Claims 25-27 are allowable since no prior art could be found teaching or suggesting a method for conducting an otoacoustic auditory emission test comprising: an overlap determined by using the specific claimed formula. Claims 29-35 are allowable since no prior art could be found teaching or suggesting an auditory screening device wherein the signal processor is configured to process otoacoustic emission signals received through the input/output interface using an offset frame overlap method to reduce uncorrelated noise present in results associated with the test procedure.

Response to Arguments

20. Applicant's arguments, see Paper No. 9, filed January 12, 2004, with respect to the rejection(s) of claim(s) 1, 5, 6 and 8-10 under Dolphin, Combs et al, Shennib and

• Art Unit: 3736

Zurek et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Zoth et al, Dolphin, Combs et al, Zurek et al and Shennib.

21. Applicant's arguments, see Paper No. 9, filed January 12, 2004, with respect to claims 2-4 and 11-28 have been fully considered and are persuasive. The rejections of Dolphin, Zurek et al, Combs et al and Christiansen have been withdrawn.

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art of Bye et al disclose a portable hearing analysis system but fails to disclose using a specific audiometric test.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Szmaj who's telephone number is (703) 308-3737. The examiner can normally be reached on Monday-Friday, with second Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-2701. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3736

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian Szmaj